GCGCGTCCTGTATCCAATCTGTGGAAAAATCGAGAGCACTCCTTCTCCAAAGACCCAAGGCACCCGCTGG
CCATGGCAGGCAGCATCTACCGGAGACCAGTGGTGTACACGATGGTGGTCTGCACAAAGGTGCATGGTTC
TTGGTCTGCAGTGGTGCCCTGGTGAATGAACGGACTGTGGTTGTGGCTGCCCACTGTGTGACTGAGCTGG
GGAAGGCCACCATCATCAAGACAGCAGACCTCAAGGTTGTCTTGGGAAAATTCTACAGGGACGATGATCG
GGATGAGAAGAGCATCCAGAATTTACGGGTTTCTGCTATCATTCTGCTCCCTGACCTACAAAACAAAAAA
AAAAAAAAAAAAAAGATAC **(SEQ ID NO:1)**

FIGURE 1

underlined = deleted in targeting construct

[ ] = sequence flanking Neo insert in targeting construct

GCGCGTCCTGTATCCAA[**TCTGTGGAAAAAATCGAGAGCACTCCTTCTCCAAAGACCCAAGG
CACCCGCTGGCCATGGCAGGCAGCATCTACCGGAGACCAGTGGTGTACACGATGGTGGTC
TGCACAAAGGTGCATGGTTCTTGGTCTGCAGTGGTGCCCTGGTGAATGAACGGACTGTGG]**
<u>**TTGTGGCTGCCCACTGTGTGACTGAGCTGGGGAAGGCCACCATCATCAAG**</u>[**ACAGCAGACC
TCAAGGTTGTCTTGGGAAAATTCTACAGGGACGATGATCGGGATGAGAAGAGCATCCAGA
ATTTACGG**]GTTTCTGCTATCATTCTGCTCCCTGACCTACAAAACAAAAAAAAAAAAAAAA
AAAAGATAC
(**SEQ ID NO:1**)

FIGURE 2A

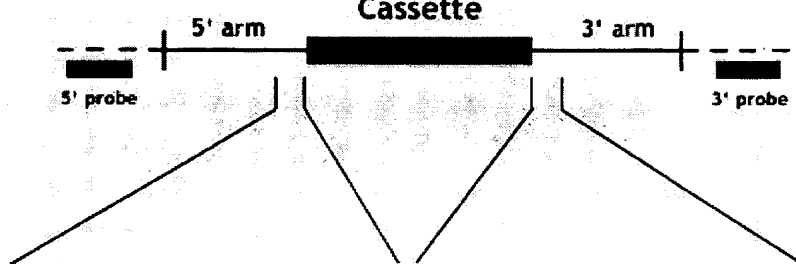**Gene Sequence Structure** *

| 181 bp | Sequence Deleted | 230 bp |

Size of EST: 369 bp

Targeting Vector* (genomic sequence)

LacZ-Neo Cassette

5' arm   3' arm

5' probe   3' probe

Arm Length:
5': 1.4 kb
3': 6 kb

———— Targeting Vector
– – – – Endogenous Locus

* Not drawn to scale

```
5'>GACTTGATCCTATCAAACTGA
CGTTTTCTCCACAGTCTGTGGAAA
AATCGAGAGCACTCCTTCCCCAAA
GACCCAAGGCACCCGCTGGCCATG
GCAGGCAACCATCTACCGGAGGAC
CAGTGGTGTACACGATGGTGGTCT
GCACAAAGGTGCATGGTTCTTGGT
CTGCAGTGGTGCCCTGGTGAATGA
ACGGACTGTGG<3'
(SEQ ID NO:2)
```

```
5'>ACAGCAGACCTCAAGGTTGTC
TTGGGAAAATTCTACAGGGACGAT
GATCGGGATGAGAAGAGCATCCAG
AATTTACGGGTGAGGATGGGCTCT
CTTGGAAACGGGAGCTTTGACTTA
ACCAGTTATGAGAGCAGAAGAACA
GGGCCTAGTGTGTCAGTATACAGC
CCTATGCCTGATATGTGACAGGGC
CTCAGATTTTC<3'
(SEQ ID NO:3)
```

FIGURE 2B